



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report Nos.: 50-261/90-06

Licensee: Carolina Power and Light Company
 P.O. Box 1551
 Raleigh, NC. 27602

Docket No.: 50-261

License No.: DPR-23

Facility Name: H. B. Robinson

Inspection Conducted: April 2-5, 1990

Inspector: B. Breslau April 16, 1990
 B. Breslau, Reactor Engineer Date Signed

Approved by: Paul Kellogg April 16, 1990
 P. Kellogg, Chief Date Signed
 Operational Programs Section
 Operations Branch
 Division of Reactor Safety

SUMMARY

Scope:

This announced inspection was conducted as a follow-up to the Operational Safety Team Inspection (OSTI) conducted July 10-28, 1989, Inspection Report No. 50-261/89-11. The scope of this inspection included review of four Violations, one unresolved item and 10 inspector follow-up items (IFI). Additionally, four IFIs from inspection report 87-06, two IFIs from 87-17, and two IFIs from 88-08 were reviewed.

Results:

The review of the previous inspection findings indicated adequate corrective action had been completed for 16 of the 23 items. Items discussed in paragraphs 2.i., n., p., s., and t. have not completed their corrective actions, these items will be reviewed in a future inspection. The item discussed in paragraph 2.k. had insufficient corrective action. The licensee's corrective actions had not commenced for one of the corrective actions discussed in paragraph 2.v. Also, the licensee failed to meet their commitment dates for items in paragraph v. as well as paragraphs 2.j. and l.

REPORT DETAILS

1. Persons Contacted

Licensee employees

- S. Allen, Manager, Training
- *C. Baucom, Senior Specialist, Regulatory Compliance
- D. Bauer, Manager, Onsite QA
- *S. Clark, Supervisor, Procurement Engineering
- *C. Crawford, Manager, Corporate Nuclear Safety
- *C. Dietz, Manager, Robinson Nuclear Project
- *S. Griggs, Technical Aide, Regulatory Compliance
- E. Harris, Jr., Manager, Onsite Nuclear Safety
- M. Heath, Engineering Supervisor, Modification Projects
- J. Kloosterman, Director Regulatory Compliance
- *A. McCauley, Principle Engineer, Offsite Nuclear Safety
- P. Odem, Project Specialist, Maintenance
- *M. Page, Manager, Technical Support
- *R. Smith, Manager, Maintenance
- *D. Stadler, Onsite Licensing Engineer
- A. Wallace, Operations Coordinator
- *H. Young, Manager, QA/QC

Other Licensee employees contacted included instructors, engineers, technicians, operators, and office personnel.

NRC Representatives

- L. Garner, Senior Resident Inspector
- *K. Jury, Resident Inspector
- M. Thomas, Reactor Inspector, R-II

*Attended exit interview

Acronyms used throughout this report are listed in the last paragraph.

2. Actions on Previous Inspection Findings (92701, 92702)

- a. (Closed) VIO 261/87-06-01, the licensee failed to adequately establish, implement and maintain procedures to carry out the dedicated shutdown capability in the event of a fire in the control room. Subsequent NRC follow-up inspection 87-17 noted that actions taken by the licensee to correct deficiencies associated with Appendix R Dedicated shutdown were insufficient. The NRC issued this violation in Proposed Civil Penalty (EA 87-124).

The licensee's response of December 17, 1987, categorically denied each specific example cited in the NOV issued in the Proposed Civil Penalty. NRC Order dated August 17, 1988, rejected the licensee's arguments and imposed the civil monetary penalty.

The licensee subsequently performed enhancements to the training by revising the initial Licensed Operator and Licensed Operator Requalification Training cycle to include DSP training. The first phase of this training consisted of approximately eight hours of classroom training followed by an examination. All licensed shift operators successfully passed an examination prior to assuming watch at power. The second phase consisted of eight hours of in-plant walk-through and drill type testing, including an in-plant walkdown of all DS equipment and components addressed by the DSPs.

Additionally, the inspector noted operator communication capabilities were enhanced by the installation of radio repeaters and that approximately 18 emergency lighting units were installed to provide adequate lighting to support DS.

The inspector's review of these enhancements/procedure changes coupled with interviews determined that adequate actions have been accomplished.

- b. (Closed) IFI 261/87-06-19, Evaluation of additional licensee emergency switchgear short circuit current studies.

The inspector reviewed the licensee's Master Fault Current Calculations, Analysis NT107-E-33F. This document determined the maximum available fault current at the emergency switchgear E-1 and E-2 and the MCC 5/6 for the various plant operating conditions. These calculations were determining factors in the development of PM-1004 for DB-50 breakers and the development of PM 939 for breaker replacement in MCC 5/6. The establishment of the base line fault current calculations is considered to have satisfactorily addressed this issue.

- c. (Closed) UNR 261/87-06-20, DB-50 Circuit Breakers are not properly coordinated electrically and review the acceptability of using a PRA in lieu of equipment changeout.

The inspector reviewed Plant Modification M-1004, Revision 0. This modification is waiting final approval and is planned for implementation during outage 13, scheduled to commence September 8, 1990. The modification recommends installation of current limiting fuses on the load side of the breaker terminals for each DB-50 breaker. The primary benefit is increased reliability from increased interrupting ratings. Secondary benefits are improved distribution system voltage regulation, wide range of acceptable system operating voltages, and elimination of a personnel and equipment safety hazard. In the event of a fault producing current in excess of the DB-50 breaker interrupting capability, the current limiters would open first.

This will render the affected component inoperative until blown limiters and faulted equipment are replaced. The inspector concluded from this review that satisfactory actions are being taken to address this concern.

- d. (Closed) IFI 261/87-06-21, Review the licensee's update of MCC 5/6 Breaker Interrupting Capacity Evaluation.

The inspector reviewed the licensee's breaker interrupting capacity evaluation (Calculation Set RN107-E-41-F, dated 5/11/87). The licensee's evaluation determined that all breaker types presently in use in MCC 5/6 have sufficient interrupting capability as long as changes to the auxiliary electrical distribution system are controlled to ensure available fault current does not increase above the rating of 17,000 amperes symmetrical and 19,159 asymmetrical until PCN 86-609/00 is implemented. This PCN was the basis for the development of PM-939 which subsequently replaced the existing breakers with Westinghouse FD 3000 series breakers.

The licensee's letter dated December 5, 1988 informed NRR of the above changes. NRR letter dated March 13, 1989, noted that the new breakers provided a current interrupt rating of 25,000 amps. NRR concluded that the replacement of the breakers to be an acceptable resolution to the concerns raised in this issue.

Additionally, the inspector reviewed completed PM-939, noting that in addition to the replacement of the existing breakers, the new overload relays have three heater elements (one per phase) compared to two for the previous relays. This modification is considered to adequately address the concerns of this issue.

- e. (Closed) IFI 261/87-17-01, Ramification of changes to DSP-002, Hot Shutdown using the Dedicated/Alternate Shutdown system, providing the option to feed DS bus from offsite power, if available, and impact on Appendix R requirements.

The licensee's reevaluation of DSP-002 determined that no negative ramifications existed due to the procedural changes instituted. The licensee concluded that the procedure increases the flexibility to mitigate an Appendix R event. The licensee's actions are considered adequate.

- f. (Closed) IFI 261/87-17-02, Implement additional short and long term improvements in the areas of dedicated shutdown procedures, training and communications.

The inspector determined from his review of the subsequent adequate licensee actions taken to address item 2.a. above, which included improving operator communication capabilities by the installation of radio repeaters and the approximately 18 emergency lighting units installed to provide adequate lighting to support DS, also provides adequate disposition of this item.

- g. (Closed) IFI 261/88-08-02, Inform operations personnel during shift turnover of lessons learned from operational events.

The licensee revised Operations Management Manual Procedure OMM-001, Operations - Conduct of Operation, Revision 17. The revision incorporated the requirement in paragraph 5.7.5 to include real time training to assure the shift operating crews are provided important information in a timely manner. This licensee action adequately addresses this concern.

- h. (Closed) IFI 261/88-08-04, Review implementation of written RAIL procedure.

The licensee implemented Commitment Tracking Procedure RP-007, Revision 0 on December 29, 1988. The inspector's review concluded that the procedure provided adequate instructions for documenting and tracking commitments. Additionally, discussions with Regulatory Compliance personnel indicated a satisfactory knowledge of the guidance provided by this procedure. This item is considered to be satisfactorily addressed.

- i. (Open) VIO 261/89-11-01, The licensee failed to establish measures to adequately assure that indications of significant Auxiliary Feed Water System deficiencies were evaluated and the deficiencies corrected in a timely manner. This violation was issued by EA 89-188, November 15, 1989.

The licensee has established Operability Determination Guidelines. A formal proceduralized process for these determinations is scheduled for implementation prior to unit startup from refueling outage 13.

Additionally, the licensee has implemented prioritization guidance to PLP-026, Corrective Action Program and a Technical Support work management program activities, which includes a formal process to determine significance determination and root cause analysis. This work management process will be integrated with the Corrective Action Program. The licensee committed to implementation of both of these program activities to be completed by June 1, 1990, and application of these practices on a site-wide basis by December 31, 1991. The adequacy of these programs will be reviewed after a reasonable time has been allowed for maturation of management practices.

- j. (Closed) VIO 261/89-11-02, Inadequate Instructions Were Provided to Ensure Proper Torquing of Various System Closure Fasteners. In Addition, Independent Inspection or Verification of The Torquing of Fasteners Was Not Provided.

The inspector reviewed a draft maintenance procedure, which the licensee had failed to meet the committed implementation date of April 2, 1990. The draft procedure provides general information, specific responsibilities, and step-by-step instructions for determining and achieving proper torque.

Additionally, the inspector reviewed the licensee's on-going maintenance procedure review program which is being utilized to incorporate specific torque values and independent verification requirements.

The inspector also reviewed several completed maintenance procedures and verified that adequate torquing requirements were included. The procedure upgrade is lagging behind the projected expectations due to unforeseen work requirements. The licensee does not expect to meet the current maintenance procedure review completion date of December 31, 1990, a request for an extension to this commitment will be forthcoming.

Based on the inspectors review of the draft torquing procedure and the review of updated maintenance procedures, the inspector determined that adequate administrative torquing guidelines were being utilized.

- k. (Open) VIO 261/89-11-03, The Licensee Made Changes to The Heat Transfer Characteristics of The Component Cooling Water System Heat Exchangers Which are Described in The UFSAR, by Plugging Tubes in Both of The Heat Exchangers, without Accomplishing the Required Safety Evaluation.

The inspector reviewed the results of the licensee's CCW heat transfer characteristics calculations. The calculations indicated that the predicted modeled conditions, (200 tubes and 58 tubes were assumed to be plugged in A and B HXs), yielded satisfactory performance of the HXs. The licensee was able to obtain actual temperature and flow rate data during a cooldown and performed subsequent calculation, the results indicated that the actual performance was nine percent better than the modeled calculations.

The licensee has revised procedure CM-201, Safety Related Heat Exchanger Maintenance, Revision 5. The revision requires "Prior to plugging tubes, notify System Engineer for plug mapping and plug type". The revision did not incorporate the requirement for a safety evaluation as required by 10 CFR 50.59 prior to plugging tubes in safety related HXs. The licensee's actions are considered to be insufficient to prevent recurrence of a similar situation. The licensee committed to revise CM-201 to reflect the requirement for performing an engineering safety evaluation to determine how many tubes may be plugged prior to the HXs becoming degraded to a point where they fail to meet their design criteria.

- l. (Closed) VIO 261/89-11-04, Failure To use correct maintenance procedure, failure to record the "as found" and "as left" positions as required by procedure, and failure to torque valve packing in accordance with vendor instructions.

The inspector reviewed documentation that indicated attendance by Maintenance Planners, Maintenance Foreman, Mechanics, and other appropriate members of maintenance during a procedure adherence review session. The reviews stressed the importance of attention to detail, procedure adherence, and communications.

A review of draft maintenance procedure CM-127, Valve Packing Using The Chesterton Packing System, indicated that mechanics are instructed to contact both the maintenance foreman and planner if valve leakage continues after reaching 115 percent of nominal torque. This procedure also requires initiation of a work request for valve packing if 115 percent of nominal torque is exceeded and the valve is successfully tested. The valve will be repacked at the next appropriate opportunity.

The licensee failed to meet their commitment date for completion of their corrective actions. However, the licensee's corrective actions are considered to have adequately address this violation.

- m. (Closed) UNR 261/89-11-05, CCW Heat Exchanger Adequacy in Performing Its Intended Design Functions.

As noted in paragraph 2.k., The inspector noted from his review of the results of the licensee's CCW heat transfer characteristics calculations, that the actual performance was nine percent better than the modeled calculations. The modeled calculation determined HX performance as not being degraded. This item appears to be adequately addressed

- n. (Open) IFI 261/89-11-06, Independent Verification Procedure should be improved.

The licensee's actions for incorporating enhancements to plant procedure PLP-030, Independent Verification, have not been completed. Completion commitment date is July 1, 1990.

- o. (Closed) IFI 261/89-11-07, Freeze protection measures for RWST and steam rupture ESF Detectors are inadequate.

The licensee has incorporated adequate guidelines for freeze protection within the Auxiliary Operator logs, (inside and outside), and the Hot Operations log. A review of Licensee memorandum, File No: 15507 requires I&C to ensure all freeze protection panels are in service and operating as necessary when the outside temperature is 32 degrees F or less. The inspector also noted Freeze Protection was added to the Basic Systems training. Also, Freeze Protection training was included in the 1990 continuing training, which was completed March 1990. Licensee's actions are consider adequate.

- p. (Open) IFI 261/89-11-08, Annunciator Panel Procedure Weaknesses.

The licensee's APP system upgrade project is scheduled to be complete prior to startup from Refueling Outage 14. Adequacy of this project will be reviewed during a future inspection.

- q. (Closed) IFI 261/89-11-09, Weakness in loop Calibration of Feedwater RTD Used in Calorimetric.

The inspector reviewed licensee memorandum, file no: 13510E, Dated March 30, 1990. The memorandum indicated that feedwater RTDs are supplied by the vendor with both a specific and a generic calibration curve. Site personnel cannot "Calibrate" an RTD. It is I&C personnel's responsibility to install the RTDs, provide RTD curves to the site computer group so that the computer points are adjusted to the vendor-supplied curves.

- r. (Closed) IFI 261/89-11-10, Deficiencies were noted in Component Cooling Water walkdown.

The inspector verified that the components identified as not being properly labeled were corrected, overranged pressure indicator, PI-6623 was replaced with a new calibrated gauge, and Nonconformance report 89/036 associated with the improperly positioned root isolation valve, CC-851C, was properly dispositioned. The inspector also verified that drawing changes were initiated for the identified discrepancies. The inspector considers the licensee's actions adequately addresses these concerns.

- s. (Open) 261/89-11-11, Lack of a time limit for incorporation or evaluation of comments made in plant procedure two year review.

The licensee has not completed their corrective actions, completion is scheduled for August 31, 1990.

- t. (Open) 261/89-11-12, Weakness in operations corrective action program.

The licensee has not completed its corrective actions, completion is scheduled for September 1, 1990.

- u. (Closed) IFI 261/89-11-13, Timeliness of operability review of problems discovered in the DBD.

The licensee's further review of this issue, noted in their response of October 16, 1989, determined that in each case of an item entered into the Discrepancy Resolution Program only three issues resulted that impacted operability. In each case the initial review resulted in an escalation of effort within the Discrepancy Resolution Program concluding with a timely notification of management.

In no case had impacts on operability resulted from the detailed reviews that were completed several months after identification of the potential discrepancy.

The licensee has determined that no basis exists to change the program as it is presently structured. This item is considered to be adequately addressed.

- v. (Open) IFI 261/89-11-14, Review implementation of MOD-18, Revision 4 and MOD-13, Revision 5 in temporary modification program.

The inspector reviewed MOD-18, Temporary Modifications, Revision 3, Approved February 28, 1990. The procedure appears to adequately address the weaknesses noted in the past performance of the temporary modification program. However, this procedure has been implemented for only one week, insufficient time has elapsed to determine adequacy of the revised program. The adequacy will be reviewed in a future inspection.

Additionally, the licensee committed to evaluate and standardize the safety review process at CP&L's nuclear sites. Following completion of this evaluation, a site-specific procedure would be implemented by March 2, 1990, for performance of 10 CFR 50.59 safety reviews. At the time of this inspection, the licensee had not started the evaluation process. The procedure upgrade was scheduled to commence on March 15, 1990, the revised due date for implementation of the site-specific procedure is June 15, 1990. The licensee's corrective actions will be reviewed during a future inspection.

- w. (Closed) IFI 261/89-11-15, Validation of critical design parameter in DBD.

The licensee's response of October 16, 1989, provided further clarification to this issue as well as paragraph 2.u above. The licensee determined that the program is adequately structured and that there are no current plans to change the existing program. The inspector considers this item to be adequately addressed.

3. Exit Interview

An exit interview was conducted on April 5, 1990, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

4. Acronyms

AFW	Auxiliary Feed Water
APP	Annunciator Panel Procedure
CCW	Component Cooling Water
CFR	Code of Federal Regulations

ESF	Engineering Safety Feature
DBD	Design Basis Document
DS	Dedicated Shutdown
DSP	Dedicated Shutdown Procedure
EA	Enforcement Action
HX	Heat Exchanger
I&C	Instrumentation & Calibration
IFI	Inspector Follow-up Item
IV	Independent Verification
MCC	Motor Control Center
NPSH	Net Positive Suction Head
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
OMM	Operation Maintenance Manual
OSTI	Operational Safety Team Inspection
PCN	Plant Change Notice
PRA	Probabilistic Risk Analysis
QA	Quality Assurance
QC	Quality Control
RAIL	Regulatory Action Item List
RP	Regulatory Procedure
RWST	Reactor Water Storage Tank
RTD	Resistance Temperature Detector
UFSAR	Updated Final Safety Analysis Report
UNR	Unresolved Item
VIO	Violation